

# SpaceLogic™ Room Controllers

## SER8350 Specification Sheet Line Voltage Fan Coil Unit (FCU) Firmware release version 2.6

Application specific and programmable Room Controller with customizable covers and screen colors. The SpaceLogic SER8350 is a line voltage fan coil Room Controller with relay packs. Suitable for commercial and high end hospitality markets.



### Product at a glance

The perfect balance between simplicity and sophistication. Select from a wide variety of casings, fascias, and configurable screen colors to match decor. Display your own logo and custom messages on screen to reinforce your brand and provide a more enjoyable occupant experience.

- **Interface:** touch screen interface.
- **Aesthetics:** up to ten selectable screen colors, two color casing options (white and silver) and eight selectable fascias.
- **Flexible:** supports upload of custom standby screen and Lua scripts.
- **Conformity:** conforms to ASHRAE specifications for Green Building Standards and applicable safety, EMC and radio standards.
- **Protocols:** wired BACnet MS/TP, wired Modbus RTU and wireless Zigbee Pro.
- **Peripherals:** easy to install Zigbee Pro or CO2 sensor plug-in modules.
- **Sensors:** CO2, occupancy, motion, light, temperature, relative humidity and water leak sensors.
- **Integration:** wired connection to EcoStruxure™ Building Operation (EBO) servers or controllers, and other third party BMS.
- **Automatic Demand Response:** load shedding application for demand response.
- **Power:** VC3000 Relay Pack to interface with line-voltage fan coil.

### Benefits

All models can be equipped with a discrete optional Passive Infrared (PIR) motion sensor. With the embedded sensor, the SpaceLogic SER8350 uses advanced occupancy routines to generate energy savings during occupied and unoccupied periods without sacrificing comfort.

- Generate energy savings
- Display custom logo
- Interchange between °C/°F
- Suitable for commercial/hospitality markets
- 22 selectable languages



VC3000  
Relay Pack

# SER8350 Overview

## Introduction

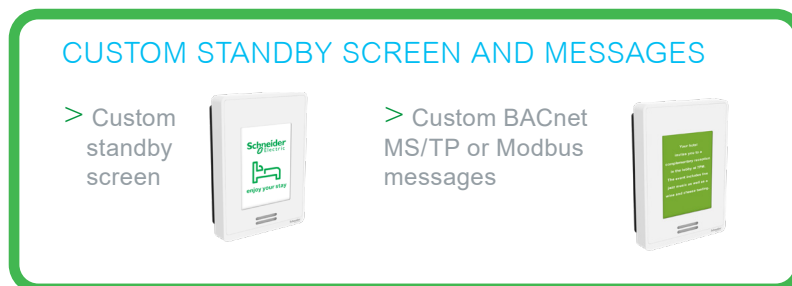
This two component retrofit option consists of the SER8350 Room Controller and the VC3000 Relay Pack. Together, they provide an easy solution for retrofitting fan coil unit thermostats without requiring other components such as relays, transformers, controllers, sensors, and network wiring to be upgraded. Existing line voltage wiring between the fan coil unit and temperature controller can be reused further minimizing overall labor and installation costs for both retrofit and new construction projects. Additional flexibility and energy savings can be achieved with optional wireless door and window switches.

## Application Specific and Programmable

The SER8350 Room Controllers, part of the SpaceLogic SE8000 family, are both application-specific AND programmable. This enables the modification of pre-configured control sequences, or the creation of entirely new control sequences for HVAC, lighting and other applications. The Room Controllers are specifically designed to provide exceptional temperature control of multi-speed Fan Coil units. When compared to traditional building automation controllers, the SER8350 series Fan Coil Room Controllers provide unmatched return on investment.

## Touch Screen with Customizable User Experience

The touch screen of the SER8350 Room Controller offers a customizable user experience with selection of languages, temperature scales, buttons, and screen colors. Using the 8000 Uploader Tool, it also supports the upload of an image or logo that becomes the default standby screen of the device. Custom messages can also be displayed on-screen using BACnet® objects when the SER8350 is integrated via a BACnet MS/TP or Modbus RTU system.



## Optional Passive Infrared Motion Sensor

All models are available with a discrete optional passive infrared (PIR) motion sensor. With this sensor, the SER8350 Room Controller uses advanced occupancy routines and optional additional Lua scripts to generate automatic energy savings during occupied and unoccupied periods without sacrificing comfort.

## Automatic Demand Response

The Automatic Demand Respond (ADR) implements the Load Shedding application compatible with regulations for Occupant Controlled Smart Thermostats. The application requires a BACnet command from interfacing equipment to turn-on and turn-off the Load Shedding feature. Messaging and confirmations are performed by adjoining equipment having Internet connectivity and then providing the Room Controller the BACnet or Modbus command message.

## Zigbee Wireless Sensors

The SER8350 Room Controllers support pairing of a number of Zigbee wireless sensors. Facility managers benefit from being able to monitor critical areas and be informed of events of concern in a timely manner which facilitates the maintenance of a safe and efficient operation.

# SER8350 Features

## Product highlights

The SER8350 Series Room Controller has the following high level functionality:

- Customizable color digital touch screen interface with multi-language support
- Fully programmable control sequences using scripting
- On board configuration interface utility
- Configurable fan sequence of operation
- Configurable Scheduler
- Humidity sensor with on-board dehumidification strategy
- Optional PIR occupancy sensor
- Advanced occupancy and scheduling functions for commercial and lodging applications
- Optional Zigbee Pro wireless sensors available for windows, doors, motion, temperature, humidity, CO2 and water leak
- Optional or embedded on-board Zigbee Pro module

## Communication & Connectivity

The SER8350 Room Controller is ready for networked communication with a Building Management System using BACnet™ MS/TP, Zigbee™ Pro, or Modbus RTU (RS-485), as needed.

## Integration to Building Management Systems (BMS)

The SER8350 Series Room Controller can be seamlessly integrated with the following:

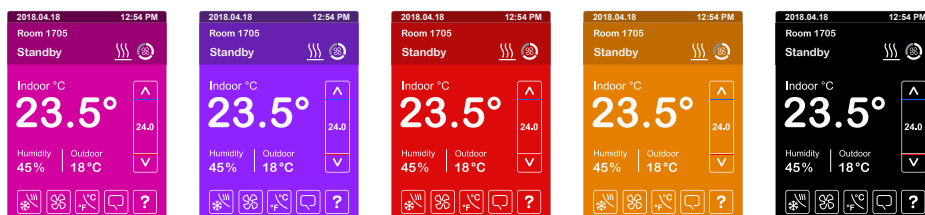
- EcoStruxure™ Building Operation (EBO) and SpaceLogic™ AS-P/AS-B Automation Servers and RP-C/RP-V Room Purpose Controllers
- Most third party BMS
- Direct wired integration to BACnet MS/TP and Modbus
- Zigbee wireless integration to EBO servers or controllers with the SpaceLogic™ Wireless Adapter - Advanced

## Custom Match Styling to Decor

- Two color casing options (white and silver)
- LED-backlit LCD touch screen
- 10 color options for LCD screen
- Removable fascia customized with replacement fascia available in eight styles and colors
- 22 selectable languages
- Over 12 screens are available for Commercial and Hospitality use cases



10 selectable screen colors



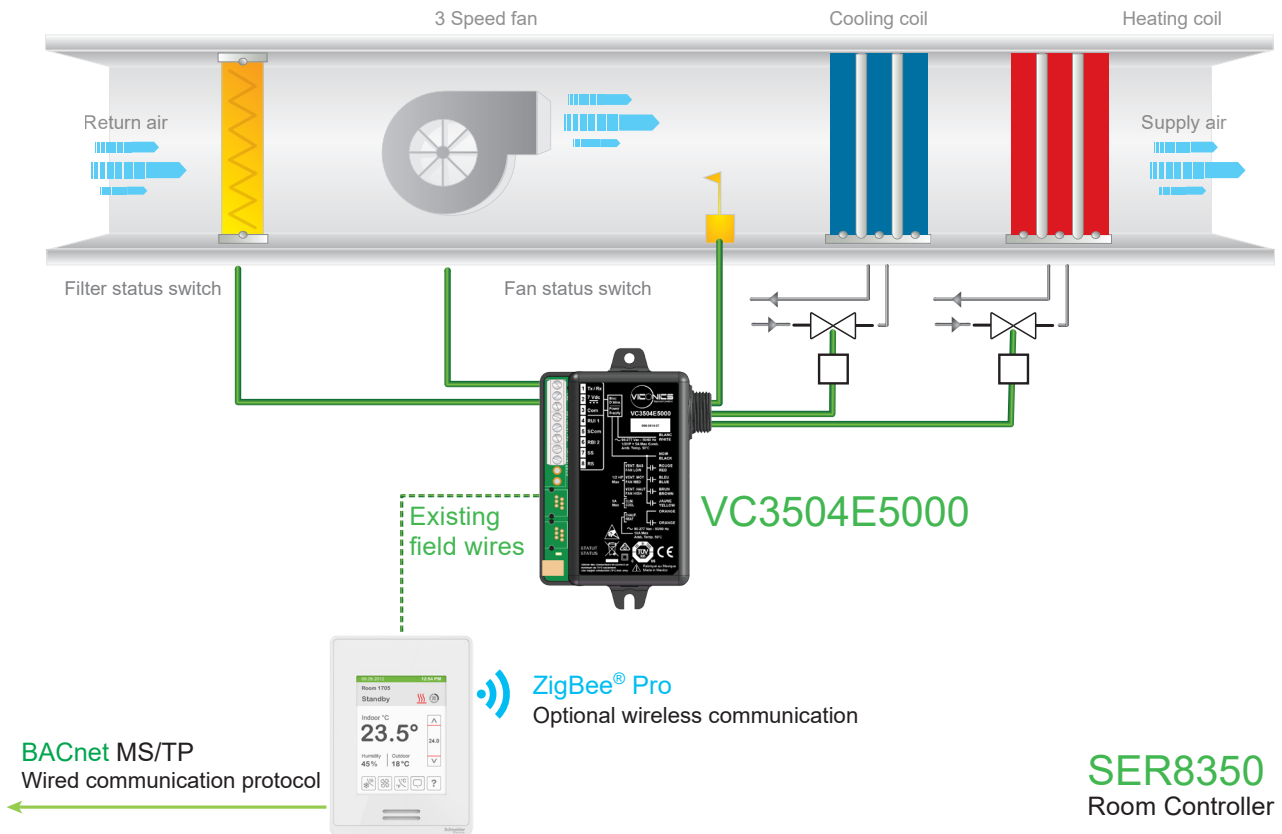
Multiple Fascias



# SER8350 Applications

## Typical Line Voltage Fan Coil Application

The SER8350 Room Controller is configured to manage up to 10 different VC3000 Relay Packs, each controlling a line voltage fan coil installation. The diagram below shows an example of a typical line voltage fan coil application and how it would be wired to the relay pack (controlled by the SER8350). For relay pack features, consult the VC3000 Relay Pack Specification Sheet.



# SER8350 Programming

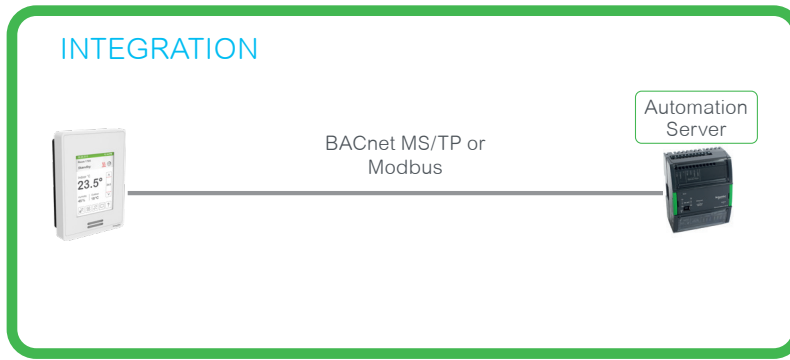
## Programming with Lua: HVAC Applications and Beyond

The SER8350 Room Controllers are programmable using the open source programming language Lua. Although building management systems often use open protocols and standards, their program BACnet objects and scripting features remain proprietary and incompatible with third party devices. The SER8350's use of an open language enables operability with all systems.

Programming can be used to go beyond the pre-configured control sequences of the SER8350 to create customized HVAC applications. It can also be used to comply with specific project requirements and manage other applications, such as lighting and other equipment. Using Lua scripts also enables you to take advantage of the extra inputs and outputs of the SER8350 to manage other devices, such as sensors and relays.

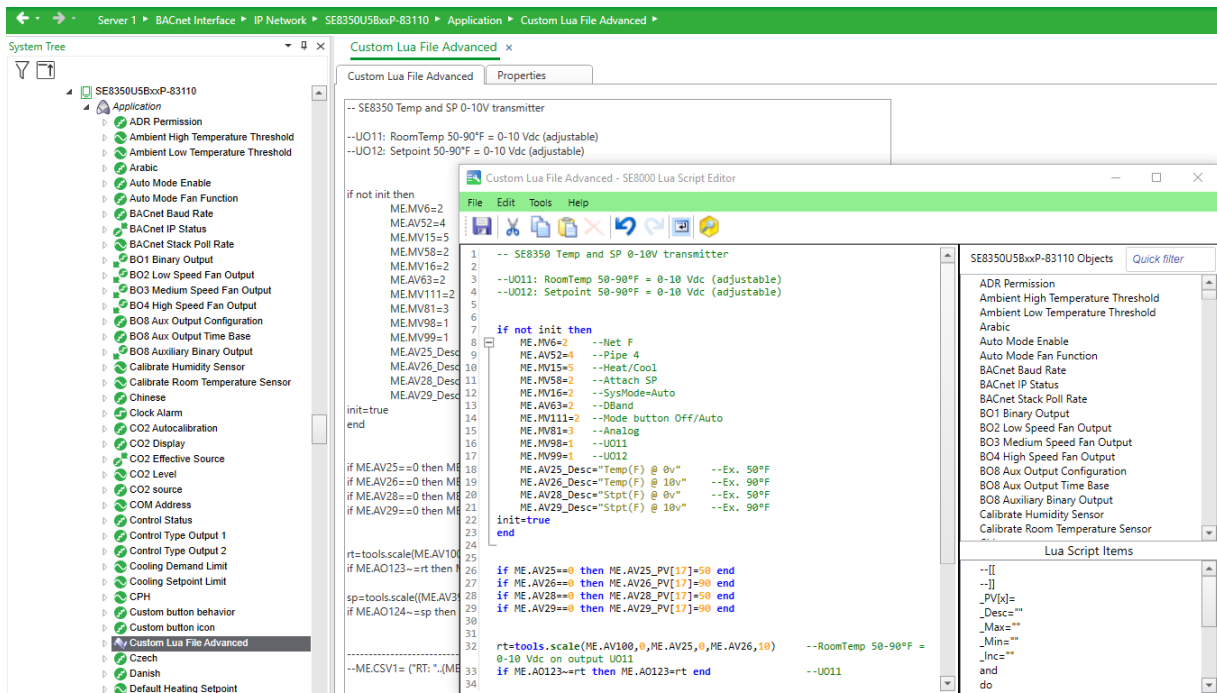
### Loading Lua via BMS

When integrated into a BACnet MS/TP building management system, the SER8350 allows a program BACnet object to load a Lua script. No special software, license or tool is required.



## Viewing Objects in EcoStruxure™ Building Operation

All program BACnet objects of the SER8350 Room Controller can easily be viewed through a Building Management System.



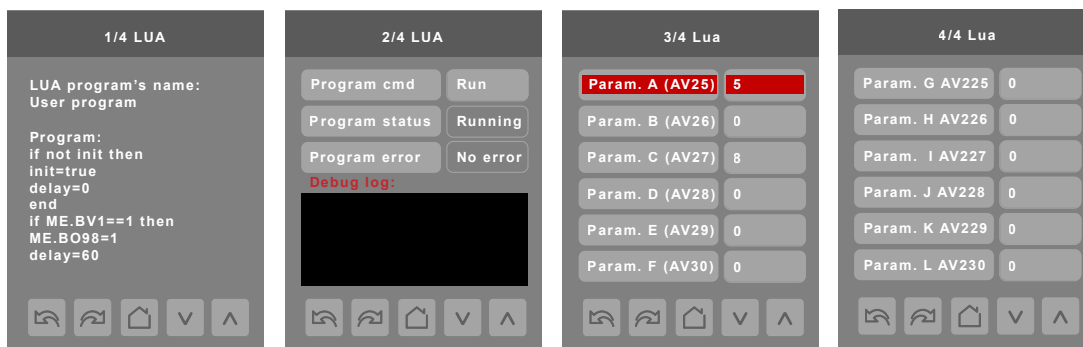
## Loading Lua via USB

When there is no BACnet MS/TP or Modbus integration, a Lua script can be uploaded directly into the SER8350 unit using the 8000 Uploader Tool. In addition to Lua scripts, standby screen images and firmware upgrades can also be loaded into the SER8350 using the 8000 Uploader Tool.

## Viewing the Lua Status via SER8350 Touch Screen

As shown on the screen captures below, we can:

- View the first few lines of the Lua script (to facilitate identification of which script is running).
- View the program status and any error information.
- Start or stop the script.
- View the status of 12 objects provided for general use by Lua scripts.



# Specifications

## Main Specifications

Item	Description
Dimensions	12cm/4.72in (H) x 8.6cm/3.38in (W) x 2.5cm/1in (D)
Power Requirements	Typical power source: 7 Vdc from VC3000 Relay-Pack. Alternate power source: 24 Vac $\pm$ 15% recommended, Absolute Max 29.5 Vac, 50/60 Hz or 24 Vdc $\pm$ 15% Peak device consumption: up to 4VA with CO2 sensor module
Output Ratings	<b>One Analog Output:</b> 0 - 10 Vdc, 5 mA maximum, (2 kilo-ohm resistance)
Operating Conditions	0 °C to 50 °C (32 °F to 122 °F) 0% to 95% R.H. non-condensing
Storage Conditions	-30 °C to 50 °C (-22 °F to 122 °F) 0% to 95% R.H. non-condensing
Temperature Sensor	Local 10 K NTC type 2 thermistor
Temperature Sensor Resolution	$\pm$ 0.1 °C ( $\pm$ 0.2 °F)
Temperature Control Accuracy	$\pm$ 0.5 °C ( $\pm$ 0.9 °F) @ 21 °C (70 °F) typical calibrated
Humidity Sensor Precision	Reading range from 10-90 % R.H. non-condensing 10 to 20% precision: 10% 20% to 70% precision: 5% 70% to 90% precision: 10%
Humidity Sensor Stability	Less than 0.25 % yearly (typical drift)
Dehumidification Setpoint Range	30% to 95% R.H.
Occ, Unocc and Standby Cooling Setpoint Range	12.0 °C to 37.5 °C (54 °F to 100 °F)
Occ, Unocc and Standby Heating Setpoint Range	4.5 °C to 32 °C (40 °F to 90 °F)
Room and Outdoor Air Temperature Display Range	-40 °C to 50 °C (-40 °F to 122 °F)
Proportional Band for Room Temperature Control	Cooling and Heating: Default: 1.8°C (3.2°F)
Analog Inputs	Modulating 0-10 VDC across RUI1* to Common
Binary Inputs	Dry contact across terminals BI1, BI2, RUI1*, RBI2* to Common
Remote Temperature Sensor	10 K NTC type 2 thermistor RS*, SS*
Wire Gauge	Power supply: 16 or 18 gauge Communications: 22 guage typical, 24 gauge monimum
Shipping Weight	0.34 kg (0.75 lb)
	* RUI1, RBI2, RS and SS via Relay Pack

## Safety and Certifications

EMC / Safety Standards	Radio Standards (For models with Zigbee Radio)
EMC Directive 2014/30/EU	RED 2014/53/EU
S.I. 2016/1091 – Electromagnetic Compatibility Regulations 2016	S.I. 2017/1206 – Radio Equipment Regulations 2017
S.I. 2016/1101 – Electrical Equipment (Safety) Regulations 2016 (for the VC3000 Relay Pack)	ETSI EN 300 328
FCC 15B Class A	ETSI EN 301 489-1
ICES-003 Class A	ETSI EN 301 489-17
LVD Directive 2014/35/EU (for the VC3000 Relay Pack)	FCC Part 15C
	RSS-247
BS/EN 60730-1	
BS/EN 60730-2-9	
BS/EN 60730-2-13	
UL 60730-1	
CAN/CSA-E60730-1	
UL 60730-2-9	
CAN/CSA-E60730-2-9	
UL 60730-2-13	
CAN/CSA-E60730-2-13	

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:  
 (1) This device may not cause interference; and  
 (2) This device must accept any interference, including interference that may cause undesired operation of the device.  
 In order to comply with FCC/ISED RF Exposure requirements, this device must be installed to provide at least 20 cm separation from the human body at all times.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :  
 1) l'appareil ne doit pas produire de brouillage;  
 2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Afin de se conformer aux exigences d'exposition RF FCC/ISED, cet appareil doit être installé pour fournir au moins 20 cm de séparation du corps humain en tout temps.

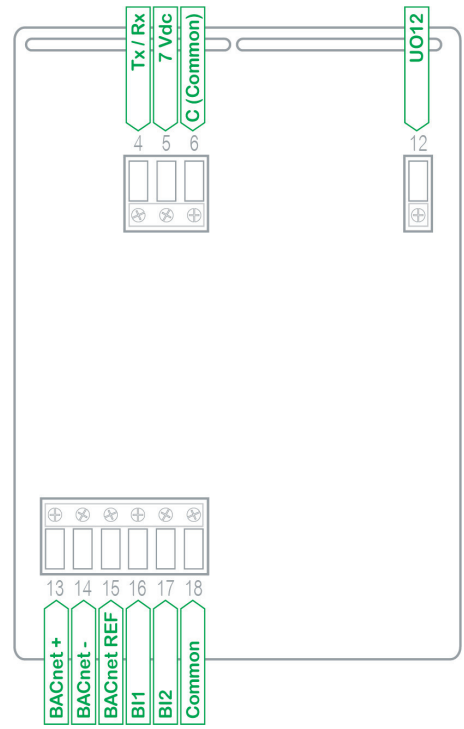
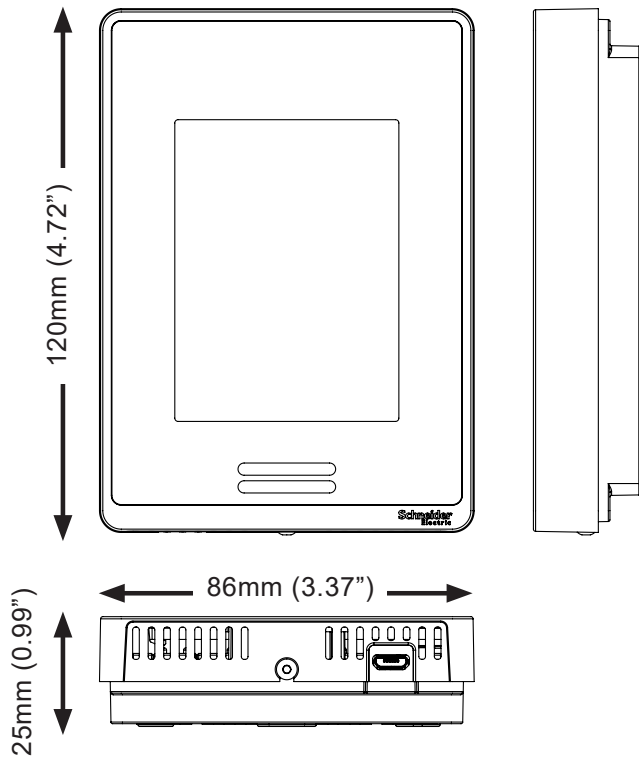


Check with your local government for instruction on disposal of this product.



<b>UK CA</b>	<b>UK Representative</b>	<b>Manufacturer</b>
	Schneider Electric Limited Stafford Park 5 Telford, TF3 3BL United Kingdom	Schneider Electric Industries SAS 35 rue Joseph Monier Rueil Malmaison 92500 France

# Dimensions



# Ordering Information

S E R 8 3 5 0 A 5 B 0 0 P

**PIR motion sensor**  
 -0 = No PIR  
 -5 = PIR on board

**Zigbee Pro**  
 -P = on board  
 -Blank = not on board

**Fascia and casing**  
 -00 = Silver/Silver  
 -11 = White/White  
*(Replacement fascias available separately)*

Replacement fascias (ordered separately)

FAS-00	Silver
FAS-01	White
FAS-05	Light tan wood
FAS-06	Dark brown wood
FAS-07	Dark black wood
FAS-10	Brushed steel finish
FAS-11	Metallic bronze
FAS-12	High gloss black

## Part numbers

SER8350 part numbers	RH sensor & control	PIR motion sensor	Zigbee built-in	BACnet MS/TP or Modbus	Silver fascia & casing	White fascia & casing
SER8350A0B00	x		*	x	x	
SER8350A5B00	x	x	*	x	x	
SER8350A5B00P	x	x	x	x	x	
SER8350A0B11	x		*	x		x
SER8350A5B11	x	x	*	x		x
SER8350A5B11P	x	x	x	x		x

\* Note: Zigbee Pro plug-in module is available.

## Accessories

### Plug-in module

There is one location in the back of the device where you can install a plug-in module (only one device can be installed at a time):

- Wireless Zigbee® Pro communication module (PN VCM8000V5045P). Refer to the SE8000 Zigbee Pro Module Specification Sheet for more information.
- CO2 sensor module (PN VCM8001V5045). Refer to the SE8000 CO2 Sensor Module Specification Sheet for more information.

### Relay Packs

Refer to the VC3000 Relay Pack Specification Sheet for more information.

### Fascias

Refer to the SE8000 Fascia Specification Sheet for more information.